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# **WATER SUPPLY OUTLOOK FOR WESTERN UNITED STATES**

**Including Columbia River Drainage in Canada**



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**U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE**

Collaborating with  
CALIFORNIA DEPARTMENT of WATER RESOURCES  
and  
BRITISH COLUMBIA DEPARTMENT of  
LANDS, FORESTS and WATER RESOURCES

AS OF  
**APR. 1, 1975**

## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made at later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

*Cover Photo: Cabins near Sacajawea Snow Course  
in Bridger Mountains, Montana.*

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## PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bismarck, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

## PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



# **WATER SUPPLY OUTLOOK FOR WESTERN UNITED STATES Including Columbia River Drainage in Canada**

ISSUED

APRIL 1, 1975

The Soil Conservation Service coordinates snow surveys conducted by its staff and many cooperators, including the Bureau of Reclamation, Corps of Engineers, Forest Service, National Park Service, NOAA, National Weather Service, Geological Survey, and other Federal Agencies, Departments of State Government, Irrigation Districts, Power Companies, and others.

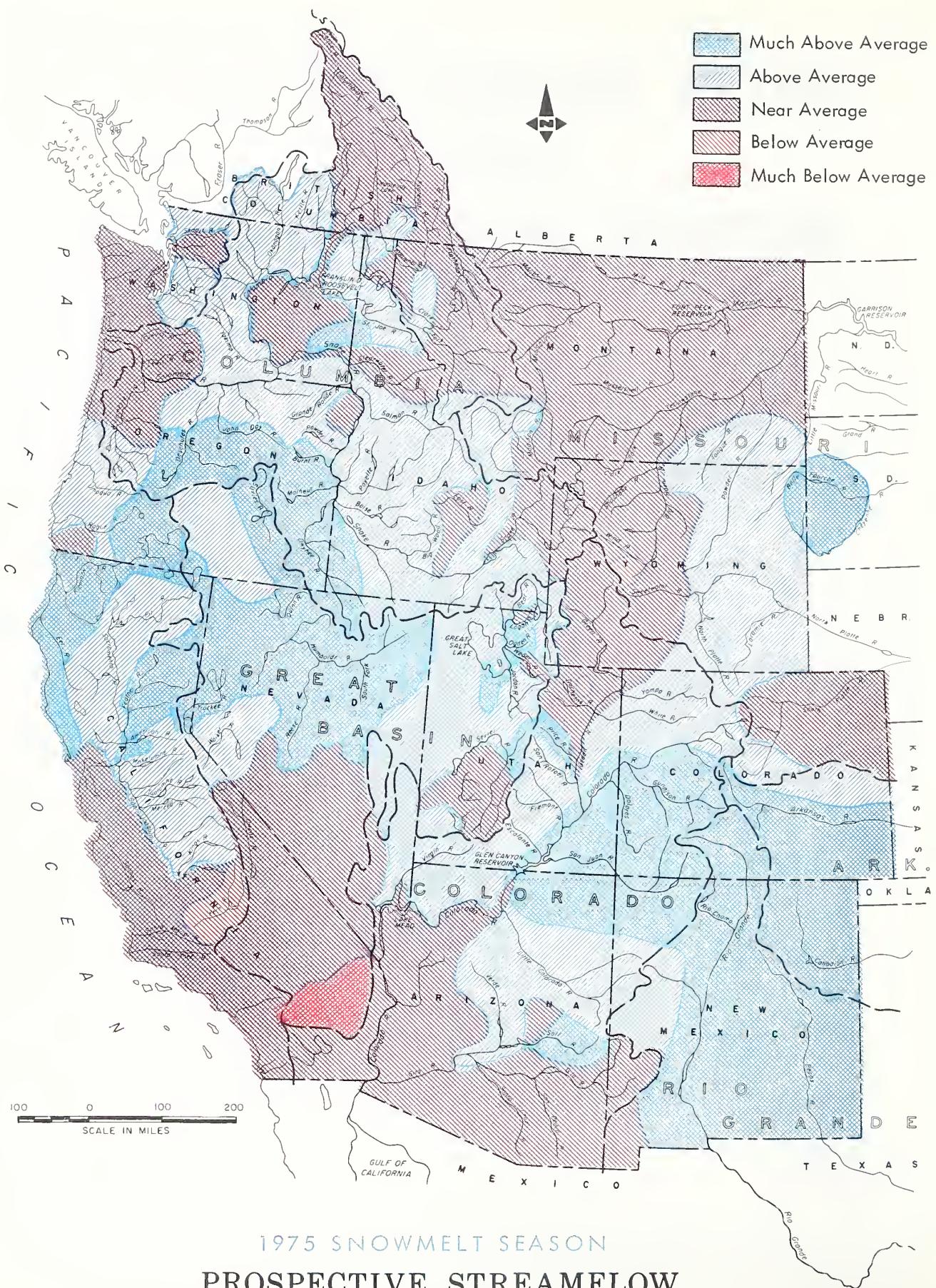
The Department of Water Resources coordinates snow surveys in California.

The Water Resources Service, Department of Lands, Forests, and Water Resources directs snow surveys in British Columbia.

This report was prepared by the Water Supply Forecasting Unit, Engineering Division, Soil Conservation Service, from data supplied by Snow Survey Supervisors of the Soil Conservation Service in the States of Alaska, Arizona, Colorado and New Mexico, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.

Data from California was supplied by the Chief, Water Supply Forecast and Snow Survey Unit, Department of Water Resources.

Data from British Columbia was supplied by the Chief, Hydrology Division, Water Investigations Branch, Department of Lands, Forests and Water Resources.



# WATER SUPPLY OUTLOOK

1974 SNOWMELT SEASON  
APRIL 1, 1975

GOOD TO EXCELLENT WATER SUPPLY IS ANTICIPATED FOR ESSENTIALLY ALL WESTERN AREAS DURING 1969. MARCH STORMS LARGELY ELIMINATED THE POCKETS OF POSSIBLE IRRIGATION WATER SHORTAGES EXPECTED LAST MONTH. HEAVY RUNOFF - AS MUCH AS TWICE NORMAL - IS NOW EXPECTED IN SEVERAL AREAS.

Mountain snowfall was well above average on nearly all western watersheds, with some areas reporting two to four times the normal March accumulation.

Only a few streams in southern California and in two other small areas; one in Utah's Uintah Basin and the other at the south end of Wyoming's Wind River Mountains have prospects of less than 90 percent of average streamflow. Most of these will yield near 85 percent of average amounts.

Carryover reservoir storage is near or above average. Combined with prospective streamflow, water supplies westwide should be about the best experienced during the past half dozen years.

Areas where next summer's streamflow is expected to be near one and a half to twice the normal amount include the Arkansas, Rio Grande and their tributaries; streams in the Four Corners area of Colorado, New Mexico, Utah and Arizona; Utah's Price and Ogden rivers, and streams adjacent to the Ogden River headwaters; some of Nevada's Humboldt River tributaries; the Owyhee River in the Three Corner area of Oregon, Idaho and Nevada; several eastern, central and southern Oregon streams; California's Cosumnes and Trinity rivers, and Surprise Valley streams along the California-Nevada border.

Typical streamflow forecast percents for some of the larger western rivers are as follows: Columbia River at The Dalles, Oregon-105 percent; Missouri River near Williston, North Dakota-106 percent; North Platte near Sinclair, Wyoming-127 percent; Arkansas at Salida, Colorado-144 percent; Rio Grande at Otowi Bridge, New Mexico-175 percent; Colorado River to Lake Powell, Arizona-138 percent; Salt at Intake, Arizona-140 percent; Utah Lake Inflow, Utah-118 percent; Humboldt at Palisade, Nevada-130 percent; Sacramento River Inflow to Shasta Reservoir, California-124 percent.

The California Department of Water Resources reports that continued above normal precipitation through March has assured the State of better than average water supply conditions in almost all areas this year. Accumulated snow water content is above average and forecasts of snowmelt runoff are now above normal in all areas except for the southern Sierra Basins of the Tule, Kaweah, and Kern Rivers. Reservoir storage is average throughout most of the State.

Forecasts for streams in Alaska now range from 70 percent of average for the Little Chena near Fairbanks, to 131 percent for the Yukon River at Eagle.

## MISSOURI BASIN

Most Montana watersheds have a snowpack which is about 5 to 15 percent above average. However, the snow does drop to about 5 percent below average on the Sun, Teton and Marias River headwaters. Snow at higher elevations is generally nearer average, while at low elevations it is above average as the result of good March snowfall occurring with very little melt taking place.

In Wyoming, snowpacks range from near average conditions in the Wind River Mountains, about 10 percent above average on the Upper Yellowstone, Shoshone, and North Platte rivers, to near 50 percent above average in the Black Hills along the Wyoming-South Dakota border. Snow courses indicate that portions of the Black Hills have a maximum snow cover for the past 30 years of record.

Most Montana streams are now expected to yield within 10 percent of their usual amounts. Generally, early season runoff is expected to be

SUMMARY OF SNOW WATER EQUIVALENT MEASUREMENTS

APRIL 1, 1975

MAJOR BASIN AND SUB-WATERSHED	WATER EQUIVALENT IN PERCENT OF: LAST YEAR	AVERAGE	MAJOR BASIN AND SUB-WATERSHED	WATER EQUIVALENT IN PERCENT OF: LAST YEAR	AVERAGE
MISSOURI BASIN			SNAKE BASIN		
Jefferson	88	116	Snake above Jackson, Wyo.	76	105
Madison	82	109	Snake above Hiese, Idaho	83	107
Gallatin	90	106	Snake abv. American Falls Res.	83	110
Missouri Main Stem	96	109	Henry's Fork	77	110
Yellowstone	82	106	Southern Idaho Tributaries	107	134
Shoshone	85	108	Big and Little Wood	83	115
Wind	87	102	Boise	91	132
North Platte	97	109	Owyhee	180	210
South Platte	153	137	Payette	85	122
ARKANSAS BASIN			Malheur	130	185
Arkansas	123	141	Weiser	92	126
Cucharas-Purgatoire	140	170	Burnt	95	145
RIO GRANDE BASIN			Powder	95	135
Rio Grande (Colo.)	192	159	Salmon	78	114
Rio Grande (New Mexico)	168	169	Grande Ronde	95	145
Pecos	315	205	Clearwater	81	102
COLORADO BASIN			LOWER COLUMBIA BASIN		
Green (Wyo.)	87	101	Yakima	91	169
Yampa - White	113	121	Umatilla	70	140
Duchesne	169	122	John Day	115	150
Price	165	129	Deschutes - Crooked	110	150
Upper Colorado	97	111	Hood	65	110
Gunnison	132	133	Willamette	90	135
San Juan	181	162	Lewis	76	106
Dolores	174	170	Cowlitz	78	118
Virgin	186	127	PACIFIC COASTAL BASIN		
Gila	486	125	Puget Sound	79	135
Salt	501	172	Olympic Peninsula	73	106
GREAT BASIN			Umpqua - Rogue	110	170
Bear	103	115	Klamath	135	185
Logan	97	108	Trinity	110	160
Ogden	148	155	CALIFORNIA CENTRAL VALLEY		
Weber	125	126	Upper Sacramento	100	155
Provo - Utah Lake	141	133	Feather	115	165
Jordan	134	139	Yuba	110	145
Sevier	114	118	American	115	135
Walker - Carson	142	139	Mokelumne	125	135
Tahoe - Truckee	173	159	Stanislaus	125	135
Humboldt	251	195	Tuolumne	100	115
Lake Co. (Oregon)	145	180	Merced	100	115
Harney Basin (Oregon)	145	170	San Joaquin	95	115
Owens	85	100	Kings	95	125
UPPER COLUMBIA BASIN			Kaweah	95	115
Columbia (Canada)	89	91	Tule	140	125
Kootenai (USA & Canada)	81	106	Kern	85	95
Clark Fork	90	113	Data for California Watersheds supplied by Dept. of Water Resources, and for British Columbia Watersheds by Dept. of Lands, Forests and Water Resources.		
Bitterroot	84	116	Average is for 1958-72 period. California averages are for the period 1931-70.		
Flathead	83	107	Based on Selected Snow Courses determined by Distribution within the Basin, Length of Record and Repetitive Monthly Measurement Schedules.		
Spokane	80	109			
Okanogan	90	138			
Methow	69	122			
Chelan	78	117			
Wenatchee	85	134			

above average as the above average low elevation snowpack melts. Late season runoff should be about average.

In Wyoming most streams are expected to produce at least average or very near average streamflow. There is one small area where streamflow may drop to about 10 percent below the usual amount. This is at the south end of the Wind River Range on the Little Popo Agie and Sweetwater rivers. Streams draining from the Bighorn Mountains have prospects ranging from 5 percent above average on Tensleep Creek to 20 percent above on the Tongue River.

Flow of the North Platte near Sinclair, Wyoming is forecast at 27 percent above average, while South Platte River tributaries in Colorado are expected to yield near 5 to 15 percent more than usual.

Carryover reservoir storage is 98 percent average in Montana, 118 percent on Wyoming's Wind River, 162 percent on the North Platte and 102 percent on the South Platte.

## RIO GRANDE BASIN

Storms near the end of March left the Rio Grande River and its tributaries with the prospect of possibly having too much water during the major snowmelt period. The snowpack now ranges from 159 percent of average on the upper Rio Grande in Colorado to 169 percent on the New Mexico tributaries and 205 percent on the Pecos River. Mountain soils under the snow continue dry in most areas. This will reduce water yield from the snow.

Flow of the Rio Grande near Del Norte, Colorado is now expected to be 55 percent more than usual. Inflow to the river system from the Conejos should be near 44 percent above average, while near 74 percent above average will come from the Chama River. Inflow from smaller streams such as the Culebra and Rio Hondo is expected to be near 55 to 60 percent above average. At Otowi Bridge, flow of the Rio Grande during the March-July period will be near 75 percent more than usual.

The Pecos River has prospects of yielding near half again as much as usual.

Carryover reservoir storage is well above average. Considering storage and streamflow, the water outlook for next summer is excellent.

## ARKANSAS BASIN

Two month-end storms caused a major change in the water outlook for the Arkansas Basin, causing streamflow forecasts to be raised as much as 35 percent above that which was expected a month ago. The present snowpack generally ranges from about 40 to 70 percent above average. Although dry mountain soils will reduce runoff a little, the heavy snowpack will cause rivers to flow near 50 percent more than average. Some high water can be expected above Pueblo.

Assuming that spring weather will be near normal, the Arkansas River at Salida is expected to yield about 44 percent more than the normal flow. Outlook for the Cucharas and Purgatoire rivers is similar, with forecasts of 52 and 45 percent above average at LaVeta and Trinidad, respectively. Flow of the Canadian River is also expected to be much above average.

Reservoir storage continues poor on the Arkansas River, with a combined storage of only 46,000 acre-feet. Although this is only about a third of average, the low storage will be more than offset by the heavy runoff to come from the melting snowpack. In New Mexico, storage in Conchas Reservoir is better, but at 72 percent is still well below average. This undesirable condition will also be offset by the heavy runoff to come.

## COLORADO BASIN

Snow cover on the major tributaries of upper Colorado River Basin now varies from essentially average on the Green River in Wyoming to 170 percent of average on the Dolores River in Colorado.

Average snow cover for the entire upper Colorado Basin above Lake Powell is 22 percent more than the usual amount.

While soil moisture conditions underlying the snowpack tend to be drier than usual, the heavy snowpack will more than offset the effect and provide good water supplies for all but a small area in the Uinta Basin. With near 15 to 20 percent below average flows now expected from the Uinta and Whiterocks rivers, a dry spring and summer could cause late season shortages along these streams. Prospective flow of other Utah streams ranges from about average to near 50 percent above average for inflow to Scofield Reservoir.

## SELECTED STREAMFLOW FORECASTS

APRIL 1, 1975

STREAM AND STATION	FORECASTS THIS YEAR		Forecast Period	Last Year's Flow In (1,000 A.F.)
	Flow In (1,000 A.F.)	Percent of Average		
<b>SASKATCHEWAN</b>				
St. Mary near Babb, Montana 1/	490	100	April-Sept.	
UPPER MISSOURI				
Beaverhead near Grant, Montana 2/	168	116	April-Sept.	151
Big Hole near Melrose, Montana	850	114	April-Sept.	
Jefferson at Silver Star, Montana	1,080	111	April-Sept.	
Madison near Grayling, Montana 3/	515	107	April-Sept.	605
Gallatin near Gateway, Montana	580	109	April-Sept.	
Sun at Gibson Dam, Montana 4/	515	87	April-Sept.	624
Belt near Monarch, Montana	130	106	April-Sept.	
Marias near Shelby, Montana 5/	510	91	April-Sept.	554
Missouri near Landusky, Montana 6/	5,000	106	April-Sept.	
near Williston, North Dakota 7/	12,500	106	April-Sept.	
S.Fk. Musselshell above Martinsdale, Montana	53	106	April-Sept.	
Milk at Eastern Crossing, Montana	260	100	April-Sept.	
Yellowstone at Yellowstone Lake Outlet, Wyo.	744	91	April-Sept.	1,135
at Corwin Springs, Montana	2,050	103	April-Sept.	2,720
at Miles City, Montana 8/	6,650	104	April-Sept.	
Clarks Fork near Belfry, Montana	625	103	April-Sept.	
Shoshone below Buffalo Bill Res., Wyo. 9/	868	105	April-Sept.	1,105
Wind near Dubois, Wyoming	112	110	April-Sept.	137
at Riverton, Wyoming 10/	690	104	April-Sept.	756
below Boysen Res., Wyoming 11/	985	98	April-Sept.	1,177
Bull Lake Creek near Lenore, Wyoming	184	101	April-Sept.	199
Little Popo Agie near Lander, Wyoming	42.5	89	April-Sept.	60
Tensleep near Tensleep, Wyoming	83	105	April-Sept.	
Medicine Lodge near Hyattville, Wyoming	22.7	107	April-Sept.	
Shell Creek near Shell, Wyoming	86	116	April-Sept.	82
Big Horn near St. Xavier, Montana 8/	1,900	103	April-Sept.	
Tongue near Dayton, Wyoming	135	120	April-Sept.	122
No. Fork Powder near Hazelton, Wyoming	11.2	112	April-Sept.	7.0
<b>PLATTE</b>				
North Platte near Sinclair, Wyoming	821	127	April-Sept.	950
Encampment near Encampment, Wyoming	165	117	April-Sept.	205
Deer Creek at Glenrock, Wyoming	29	110	April-Sept.	52
Laramie Riv. & Pioneer Canal, nr Woods, Wyo. 12/	144	113	April-Sept.	158
Big Thompson at Drake, Colorado 13/	110	103	April-Sept.	
Clear at Golden, Colorado 14/	145	114	April-Sept.	
St. Vrain at Lyons, Colorado 15/	80	107	April-Sept.	
Cache LaPoudre near Fort Collins, Colorado 16/	255	103	April-Sept.	
<b>ARKANSAS</b>				
Arkansas at Salida, Colorado 17/	450	144	April-Sept.	
Cucharas near LaVeta, Colorado	440	152	April-Sept.	
Purgatoire at Trinidad, Colorado	55	145	April-Sept.	
<b>RIO GRANDE</b>				
Rio Grande near Del Norte, Colorado 18/	725	155	April-Sept.	
at Otwi Bridge, New Mexico 19/	925	175	March-July	
Conejos near Mogote, Colorado 20/	265	144	March-July	
El Vado Res., Inflow, New Mexico	330	174	March-July	
Pecos at Pecos, New Mexico	60	146	March-July	
<b>UPPER COLORADO</b>				
Colorado, Grandby Res. Inflow, Colorado 21/	235	103	April-Sept.	
near Dotsero, Colorado 22/	1,700	119	April-Sept.	
near Cameo, Colorado 23/	2,800	118	April-Sept.	
near Cisco, Utah 24/	4,282	151	April-July	
Lake Powell Inflow, Arizona 25/	9,469	138	April-July	
Roaring Fork at Glenwood Springs, Colorado 26/	950	133	April-Sept.	
Uncompahgre at Colona, Colorado	220	164	April-Sept.	2,434

Forecasts in California provided by Department of Water Resources.

Average is for 1953-67 period except California. California is computed for 1916-65 period.

Forecasts assume average Effective Climate Conditions from Date Through Snow Melt Season.

Explanatory Notes on Forecasts listed on Inside Back Cover.

## SELECTED STREAMFLOW FORECASTS

APRIL 1, 1975

STREAM AND STATION	FORECASTS THIS YEAR		Forecast Period	Last Year's Flow In (1,000 A.F.)
	Flow In (1,000 A.F.)	Percent of Average		
UPPER COLORADO (continued)				
Gunnison, Blue Mesa Res. Inflow, Colorado 27/ near Grand Junction, Colorado 28/	1,070 1,650	136 139	April-Sept.	
Dolores at Dolores, Colorado	375	162	April-Sept.	
Green at Warren Bridge, Wyoming at Green River, Wyoming 29/	318 960	97 97	April-Sept.	389
Flaming Gorge Res. Inflow, Utah 27/ at Green River, Utah 30/	1,074 3,037	91 107	April-July	1,165
Big Sandy near Big Sandy, Wyoming	56	98	April-Sept.	67
Yampa at Steamboat Springs, Colorado near Maybell, Colorado	345 1,150	126 127	April-Sept.	
Little Snake near Dixon, Wyoming	353	117	April-Sept.	
White near Meeker, Colorado	365	124	April-Sept.	
Strawberry at Duchesne, Utah 40/	53	95	April-July	
Duchesne near Tabiona, Utah 31/ at Randlett, Utah 40/	107 235	104 107	April-July	
Lakefork below Moon Lake, Utah 32/	70	101	April-July	
Uinta near Neola, Utah	75	85	April-July	
Whiterocks near Whiterocks, Utah	48	83	April-July	
Price, Scofield Res. Inflow, Utah 33/	51	149	April-July	
Cottonwood near Orangeville, Utah 34/	58	126	April-July	
San Juan, Navajo Res. Inflow, New Mexico 27/ near Bluff, Utah 35/	1,000 1,561	168 183	April-July	
Animas at Durango, Colorado	100	161	April-Sept.	
LOWER COLORADO				
Virgin near Virgin, Utah	55	115	April-June	
Little Colorado above Lyman, Arizona	10	128	April-June	0.3
Gila near Solomon, Arizona	45	102	April-May	8.3
Frisco at Clifton, Arizona	24	102	April-May	4.7
Salt at Intake, Arizona	200	140	April-May	47.8
Tonto above Roosevelt, Arizona	8	95	April-May	3.1
Verde above Horseshoe Dam, Arizona	60	111	April-May	23.9
GREAT BASIN				
Bear at Utah-Wyo. State Line at Harer, Idaho	125 316	112 110	April-July	126
Smith's Fork near Border, Wyoming	126	109	April-Sept.	141
Thomas Fork near Wyo.-Ida. State Line	86	112	April-Sept.	89
Logan near Logan, Utah 36/	119	106	April-July	153
Ogden, Pine View Res. Inflow, Utah 27/	180	164	April-June	165
Weber near Oakley, Utah	105	105	April-June	127
Provo near Hailstone, Utah 37/	115	113	April-July	
Strawberry Res. Inflow, Utah	48	107	April-July	
Utah Lake Net Inflow, Utah	246	118	April-July	
Big Cottonwood near Salt Lake City, Utah	43	119	April-July	
Beaver near Beaver, Utah	21	105	April-July	
Sevier near Hatch, Utah near Gunnison, Utah	42 45	103 116	April-July	
So. Fork Humboldt near Elko, Nevada	94	142	April-July	
Humboldt at Palisades, Nevada	250	130	April-July	160
Truckee at Farad, California 38/	350	131	April-July	111
East Carson near Gardnerville, Nevada	215	118	April-July	228
West Carson at Woodsfords, California	60	118	April-July	65
East Walker near Bridgeport, California 39/	80	118	April-August	80
West Walker near Coleville, California	160	110	April-July	173
Donner und Blitzen near Frenchglen, Oregon	66	136	April-July	
Silvies near Burns, Oregon	115	157	April-July	150
Chewaucan near Paisley, Oregon	94	125	April-July	118
Deep above Adel, Oregon	81	122	April-July	87
Bidwell near Ft. Bidwell, California	17	148	April-July	15.5
Owens below Long Valley Res., California	59	95	April-July	65

Forecasts in California provided by Department of Water Resources.

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## SELECTED STREAMFLOW FORECASTS

APRIL 1, 1975

STREAM AND STATION	FORECASTS THIS YEAR		Forecast Period	Last Year's Flow In (1,000 A.F.)
	Flow In (1,000 A.F.)	Percent of Average		
UPPER COLUMBIA				
Columbia at Birchbank, British Columbia 40/	45,700	98	April-Sept.	54,227
at Grand Coulee, Washington 40/	71,000	103	April-Sept.	85,139
at Grand Coulee, Washington 40/			January-July	
below Rock Island, Washington	78,400	104	April-Sept.	96,939
Kootenai below Libby Dam nr Libby, Montana	7,830	105	April-Sept.	9,506
at Leonia, Idaho	9,500	105	April-Sept.	
Blackfoot near Bonner, Montana	1,100	107	April-Sept.	1,031
So.Fk. Flathead nr Columbia Falls, Montana 40/	2,300	97	April-Sept.	3,092
Flathead at Columbia Falls, Montana 40/	6,200	97	April-Sept.	8,649
near Polson, Montana 40/	7,400	97	April-Sept.	10,341
Clark Fork above Missoula, Montana	1,920	105	April-Sept.	2,016
near Plains, Montana 40/	12,600	100	April-Sept.	16,349
at Whitehorse Rapids, Idaho	14,200	101	April-Sept.	
Bitterroot near Darby, Montana	685	117	April-Sept.	732
Priest near Priest River, Idaho 41/	975	111	April-July	
Pend Oreille below Box Canyon, Washington	16,400	103	April-Sept.	
Kettle near Laurier, Washington	2,160	115	April-Sept.	2,831
Spokane at Post Falls, Idaho 42/	3,350	111	April-Sept.	
Similkameen near Nighthawk, Washington	1,880	124	April-Sept.	2,216
Okanogan near Tonasket, Washington	2,210	128	April-Sept.	2,757
Methow near Pateros, Washington	1,240	120	April-Sept.	
Stehokin at Stehokin, Washington	1,040	115	April-Sept.	
Chelan at Chelan, Washington 43/	1,470	117	April-Sept.	1,343
Wenatchee at Peshastin, Washington	2,070	116	April-Sept.	2,556
SNAKE				
Snake above Palisades Res., Wyoming 44/	2,540	97	April-Sept.	3,737
near Heise, Idaho 45/	4,000	101	April-Sept.	5,555
near Blackfoot, Idaho 46/	4,380	106	April-July	
at Weiser, Idaho	7,050	108	April-Sept.	
Grey's above Palisade, Wyoming	386	100	April-Sept.	551
Salt above Palisade, Wyoming	375	103	April-Sept.	493
Henry's Fork near Ashton, Idaho 47/	720	107	April-Sept.	
Teton near St. Anthony, Idaho	480	109	April-Sept.	
Big Lost near Mackay, Idaho 48/	185	101	April-Sept.	
Little Lost near Howe, Idaho	40	98	April-Sept.	
Portneuf at Topaz, Idaho	110	118	March-Sept.	
Oakley Res. Inflow, Idaho	35	119	March-Sept.	
Salmon Falls Creek nr San Jacinto, Idaho	102	122	March-Sept.	
Little Wood abv High 5 Crks, Idaho	100	106	April-Sept.	
Big Wood, Inflow to Magic Res., Idaho 49/	340	113	April-Sept.	
Bruneau near Hot Springs, Idaho	280	124	March-Sept.	
Boise near Boise, Idaho 50/	1,900	118	April-Sept.	
Owyhee near Owyhee, Nevada 51/	115	169	April-July	88
Owyhee Res. Net Inflow, Oregon 27/	618	200	April-July	385
Malheur near Drewsey, Oregon	114	160	April-July	135
Payette near Horseshoe Bend, Idaho 52/	2,090	113	April-Sept.	
Weiser above Crane Creek, Idaho 40/	580	114	March-Sept.	
Burnt near Hereford, Oregon 40/	48	150	April-July	69
Powder near Sumpter, Oregon	71	129	April-July	110
Eagle above Skull Creek, Oregon	188	107	April-July	284
Imnaha at Imnaha, Oregon	330	107	April-Sept.	460
Salmon at Whitebird, Idaho	7,850	113	April-Sept.	
Lostine near Lostine, Oregon	131	105	April-Sept.	173
Grande Ronde at LaGrande, Oregon	191	124	April-July	236
Clearwater at Spalding, Idaho	8,950	104	April-Sept.	
LOWER COLUMBIA				
Yakima at CleElum, Washington 53/	1,100	114	April-Sept.	
near Parker, Washington 54/	2,020	117	April-Sept.	
Naches near Naches, Washington 55/	980	110	April-Sept.	

Forecasts in California provided by Department of Water Resources.  
 Average is for 1953-67 period except California. California is computed for 1916-65 period.  
 Forecasts assume average Effective Climate Conditions from Date Through Snow Melt Season.

Explanatory Notes on Forecasts listed on Inside Back Cover.

## SELECTED STREAMFLOW FORECASTS

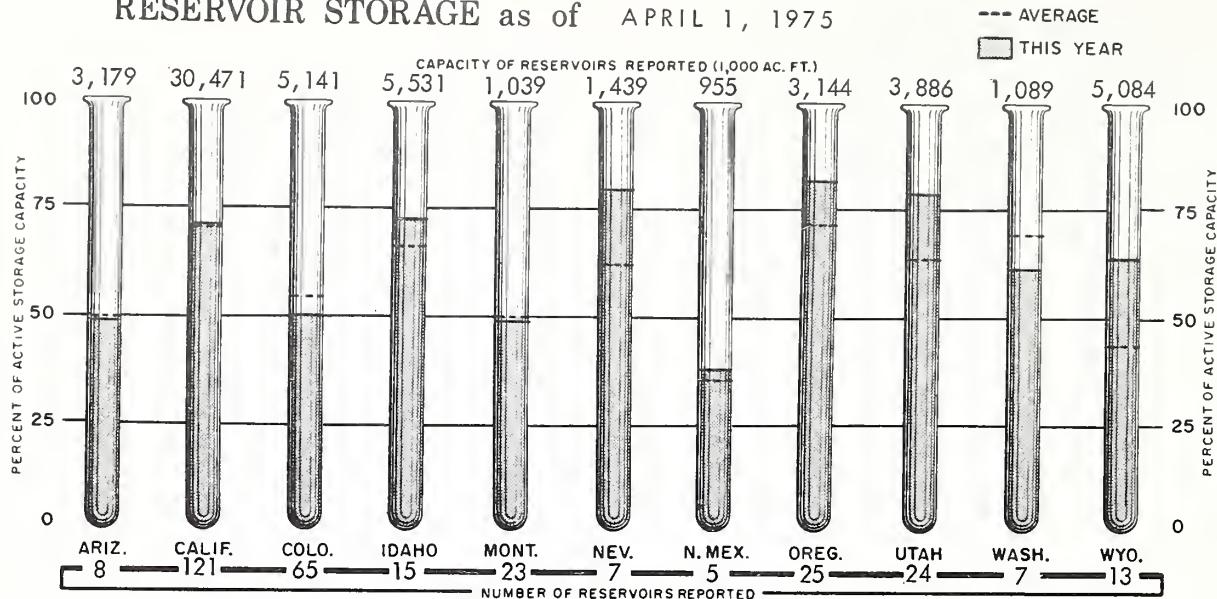
APRIL 1, 1975

STREAM AND STATION	FORECASTS THIS YEAR		Forecast Period	Last Year's Flow In (1,000 A.F.)
	Flow In (1,000 A.F.)	Percent of Average		
LOWER COLUMBIA (continued)				
Walla Walla, So. Fk. near Milton, Oregon	60	113	April-July	86
Umatilla at Pendleton, Oregon	160	115	April-July	
John Day, Middle Fork at Ritter, Oregon	147	140	April-July	
North Fork at Monument, Oregon	606	115	April-July	
Crooked near Post, Oregon	138	152	April-July	
Deschutes at Benham Falls, Oregon <u>40/</u>	440	122	April-July	
Columbia at The Dalles, Oregon <u>40/</u>	76,500	105	April-June	99,282
at The Dalles, Oregon <u>40/</u>	94,000	105	April-July	123,569
at The Dalles, Oregon <u>40/</u>	110,000	105	April-Sept.	139,724
Hood near Tucker Bridge, Oregon <u>40/</u>	286	100	April-July	
McKenzie near Vida, Oregon	1,161	112	April-July	
Santiam, South, at Waterloo, Oregon	576	102	April-July	
North, at Mehama, Oregon <u>40/</u>	796	104	April-July	
Clackamas at Estacada, Oregon	716	106	April-July	
Willamette at Salem, Oregon <u>40/</u>	5,213	118	April-July	5,921
Lewis at Ariel, Washington <u>56/</u>	1,340	100	April-Sept.	1,872
Cowlitz at Castle Rock, Washington <u>57/</u>	2,940	106	April-Sept.	4,296
NORTH PACIFIC COASTAL				
Dungeness near Sequim, Washington	175	106	April-Sept.	
Umpqua, No., near Toketee Falls, Oregon <u>40/</u>	199	120	April-Sept.	
Rogue at Raygold, Oregon	950	129	April-July	
Klamath Lake, Net Inflow, Oregon	584	131	April-July	676
Trinity at Lewiston, California	970	157	April-July	1,021
CALIFORNIA CENTRAL VALLEY <u>40/</u>				
Sacramento, Inflow to Shasta, California	2,200	124	April-July	2,604
Feather near Oroville, California	2,540	136	April-July	2,688
Yuba at Smartville, California	1,440	133	April-July	1,390
American, Inflow to Folsom Res., Calif.	1,610	122	April-July	1,696
Cosumnes at Michigan Bar, California	205	155	April-July	177
Mokelumne, Inflow to Pardee Res., Calif.	590	127	April-July	574
Stanislaus, Inflow to Melones Res., Calif.	910	127	April-July	892
Tuolumne, Inflow to Don Pedro Res., Calif.	1,330	111	April-July	1,381
Merced, Inflow to Excheque Res., Calif.	660	109	April-July	746
San Joaquin, Inflow to Millerton Lake, Calif.	1,350	113	April-July	1,508
Kings, Inflow to Pine Flat Res., California	1,350	116	April-July	1,522
Kaweah, Inflow to Terminus Res., California	265	98	April-July	331
Tule, Inflow to Success Res., California	55	93	April-July	73
Kern, Inflow to Isabella Res., California	360	86	April-July	512
ALASKA				
Yukon at Eagle, Alaska	45,000	131	April-July	
at Ruby, Alaska	76,000	113	April-July	
Porcupine nr Fort Yukon, Alaska	7,500	104	April-July	
Salcha near Salchaket, Alaska	610	80	April-July	
Little Chena near Fairbanks, Alaska	65	70	April-July	
Chena at Fairbanks, Alaska	460	80	April-July	
Ship Creek near Anchorage, Alaska	80	136	April-July	
So.Fk.Campbell at Canyon Mouth nr Anchorage, AK	19.6	131	April-July	

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# RESERVOIR STORAGE as of APRIL 1, 1975



Flow of most Wyoming streams is expected to be near but slightly below average. In northern Colorado the Yampa and White rivers currently have prospects of yielding about 25 percent above average amounts. Streams in central Colorado, prospective yields along the Colorado main stem varies from 3 percent above average at Grandby Reservoir to 51 percent above at Cisco, Utah. The increased flow at Cisco is due to heavy contributions coming from tributaries such as the Roaring Fork and Gunnison rivers (with forecasts of 130 to 140 percent average), and the Uncompahgre and Dolores rivers (forecast at 160 to 165 percent).

Inflow to Flaming Gorge Reservoir is forecast at 9 percent below average. After contributions from the Yampa, White and Duchesne rivers, flow of the Green River at Green River, Utah is expected to be 7 percent above average. Flow of the San Juan River and its tributaries will be exceptionally high. Stream forecasts range from 61 percent above average on the Animas River to 83 percent above average for the San Juan near Bluff. Combining expected flow from the Green, Colorado and San Juan rivers indicates a prospect for the April-July inflow to Lake Powell to be 9,469,000 acre-feet, or 138 percent of average.

In the lower Colorado Basin, flow of the Virgin River near Virgin, Utah is forecast at 15 percent above average, while the Santa Clara is expected to flow at 39 percent above the usual amount. In Arizona heavy storms during March increased snow cover substantially above average for April 1 on all watersheds. Streamflow forecasts have all been raised, with greatest increases occurring on the Salt and Little Colorado rivers.

With significant increases in storage during March, all major Arizona reservoirs contain close to normal amounts of stored water. Show

Low Lake is spilling, but all other reservoirs will contain the anticipated runoff.

The April thru May forecast of 268,000 acre-feet for the Salt River Project inflow is 30 percent above the 1958-72 15 year average. The 45,000 acre-feet forecast for the Gila River is near average, and six times that received last year. Near normal or better water supplies are now expected throughout all of Arizona this year.

## GREAT BASIN

Very wet March storms deposited from 2 to 4 times the normal monthly snowpack increases on most watersheds of the Great Basin. The resulting April 1 snowpacks, combined with present excellent reservoir storage, promise good to excellent water supplies for the coming summer months.

The mountain snowpack now ranges from average on the Owens River in California to 195 percent on Nevada's Humboldt River. On the Humboldt many snow course readings approach the maximums on record, which include the years 1969, 1958 and 1952. Snow on the mountains of Oregon's Lake County and Harney Basin is nearly this heavy at 180 and 170 percent, respectively. Heaviest snow cover in Utah is in the Ogden River-Lost Creek area and is 155 percent of average.

Watersheds where streamflow is expected to be from one and a half to twice the normal amount include the following: in Utah - Ogden, Blacksmith Fork and Little Bear rivers, and Lost and Big Creeks which head in the same area; in

STORAGE IN LARGE RESERVOIRS      APRIL 1, 1975

BASIN AND NAME OF RESERVOIR	CAPACITY (1,000 A.F.)	STORAGE (1,000 A.F.)	STORAGE PERCENT AVERAGE	BASIN AND NAME OF RESERVOIR	CAPACITY (1,000 A.F.)	STORAGE (1,000 A.F.)	STORAGE PERCENT AVERAGE
<b>UPPER MISSOURI</b>							
Belle Fourche	185	126	108	Chelan	676	62	35
Boysen	550	290	126	Coeur d'Alene	225	86	49
Buffalo Bill	373	204	151	Duncan	1,347	5	4
Canyon Ferry	2,043	1,331	85	Flathead	1,791	652	82
Fort Peck	19,410	15,779	118	Hungry Horse	3,428	1,793	83
Garrison	24,790	18,731	129	Kootenay	673	117	71
Hebgen	377	255	124	Lake Koocanusa	4,934	9	---
Keyhole	192	128	160	Lower Arrow	3,083	12	2
Lake Francis Case	5,816	3,985	98	Noxon Rapids	335	205	104
Lake Sharp	1,900	1,744	102	Pend Oreille	1,155	215	45
Oahe	23,630	19,320	118	Roosevelt	5,232	1,682	92
Tiber	1,347	508	85	Upper Arrow	4,061	186	19
Bighorn Lake	1,356	754	95	<b>LOWER COLUMBIA</b>			
<b>PLATTE</b>							
So. Platte in Colo.(30)	1,085	855	102	Cougar	155	97	131
City of Denver (7)	622	434	94	Detroit	300	201	113
Colo-Big Thompson (3)	718	497	119	Green Peter	270	177	107
Glendo	784	467	116	Hills Creek	200	129	106
Pathfinder	1,016	931	223	Lookout Point	337	216	124
Seminoe	1,010	454	155	Prineville	153	124	101
<b>ARKANSAS</b>							
Conchas	273	132	72	<b>SNAKE</b>			
John Martin	354	8	9	American Falls	1,125	1,084	109
Turquoise	120	38	---	Anderson Ranch	423	254	111
<b>RIO GRANDE</b>							
Elephant Butte	2,195	445	113	Arrowrock	287	277	120
E1 Vado	195	95	---	Brownlee	980	411	52
<b>UPPER COLORADO</b>							
Blue Mesa	830	328	---	Cascade	653	308	101
Flaming Gorge	3,749	3,072	193	Dworshak	2,016	18	---
Navajo	1,696	968	---	Jackson	847	634	123
Powell	25,002	17,295	204	Lucky Peak	278	114	95
Starvation	152	102	85	Owyhee	715	649	127
<b>LOWER COLORADO</b>							
Havasu	619	554	100	Palisades	1,200	780	98
Mead	26,159	19,776	117	Warm Springs	191	153	128
Mohave	1,810	1,603	96	<b>PACIFIC COASTAL</b>			
Salt River Res. (4)	1,755	1,159	101	Clair Engle	2,448	2,200	98
San Carlos	949	242	121	Clear Lake	440	337	135
Verde River Res. (2)	318	80	51	Nacimiento	350	320	151
<b>GREAT BASIN</b>				Ross	1,404	531	69
Bear	1,421	1,110	114	Upper Klamath	584	431	91
Deer Creek	150	98	102	<b>CALIFORNIA CENTRAL VALLEY</b>			
Lahontan	291	279	128	Almanor	1,308	902	115
Rye Patch	157	132	126	Berryessa	1,602	1,628	102
Sevier Bridge	236	47	100	Bullards Bar	930	623	99
Strawberry	274	215	180	Folsom	1,010	708	110
Tahoe	732	554	121	Isabella	570	210	117
Utah	884	836	130	McClure	1,026	754	127
Willard Bay	193	157	115	Millerton	521	330	94
				Oroville	3,484	2,674	92
				Pine Flat	1,013	987	92
				Shasta	4,500	4,046	101

Reservoir Storage Data Provided by Bureau of Reclamation, Corps of Engineers, Geological Survey, and water using organizations. Data from California and British Columbia provided by Department of Water Resources and Department of Lands, Forests and Water Resources, respectively.

Nevada - North Fork Humboldt and Marys rivers, and Martin Creek; in California's Surprise Valley area - Bidwell, Eagle, Mill and Deep creeks; in Oregon - Silvies River near Burns.

Streams in central and southern Nevada, as well as Utah's Logan, Weber, Strawberry Reservoir inflow, Beaver and Sevier River tributaries (excluding the San Pitch River and the Sevier below Gunnison) will yield from near 10 percent less to 10 percent above average flows. All other streams in the Basin not mentioned above are forecast to yield from about 10 to 50 percent above average amounts.

Reservoir storage in Nevada remains excellent, with major reservoirs containing 127 percent of average amounts. Storage in Utah reservoirs is similar with 123 percent.

## COLUMBIA BASIN

March storms caused above average snowpack accumulation on most watersheds, with greatest increases occurring in the mountains of southern portions of the Basin.

Considering the Columbia Basin as a single unit, the April 1st snowpack was 10 percent above average. However, snow in the Basin varies from a low of 87 percent average on the Upper Columbia River in British Columbia, to a high of 210 percent on the Owyhee River.

With the exception of the Upper Columbia in British Columbia, snowpack on the remaining major water producing areas of the Basin ranges from 5 to 15 percent above average. This includes the Lower Columbia in British Columbia, the Kootenay, the Clark Fork with all its Montana tributaries, the Spokane, Clearwater, Salmon and upper Snake River in Wyoming and Idaho.

Snow on most Oregon watersheds ranges from near a third above average to twice average. On most southern Idaho tributaries to the Snake River, the snow ranges from 20 to 40 percent above average. In Washington, highest snow cover percentagewise - at near 50 percent above average to twice average - lies on the Palouse, Colville, Kettle, Yakima, Green and White rivers.

Watersheds in the United States where streamflow is expected to be within from about 5 percent below to 10 percent above average include the Lewis and Cowlitz rivers in southwest Washington; the Hood, Santiam and Clackamas rivers in northwest Oregon; the Imnaha, Eagle and Lostine rivers in northeastern Oregon; Montana's Flathead, Blackfoot and Clark Fork rivers; Idaho's Pend Oreille, Clearwater, Big and Little Lost and Little Wood, Henry's Fork and Teton rivers;

all Wyoming tributaries to the Snake River, and the main stem Columbia in Washington and Oregon.

Highest runoff in the Basin, percentagewise, is expected from the Owyhee River inflow, at twice average. Streams where flows are expected to range from about 30 to 60 percent above average include Oregon's Malheur, Burnt, Powder, John Day, and Crooked rivers. In North Pacific Coastal areas, flow of the Rogue and Klamath rivers will be similar.

Remaining watersheds in the U.S. portion of the Basin are expected to yield from 10 to 30 percent above average amounts.

According to the British Columbia Water Resources Service, Department of Lands, Forests and Water Resources, flow of the Columbia and Kootenay rivers and their tributaries in British Columbia will range from 8 percent below average to 15 percent above, except for inflow to Okanagan Lake, forecast at 49 percent above average, and the Kettle at Ferry, forecast at 30 percent above.

Reservoir storage is near or above average.

## CALIFORNIA BASIN

The Department of Water Resources, coordinating agency for snow surveys and water supply forecasting in California reports that a cold, wet weather regime which started in February persisted through March, and California is now assured of better than average water supplies in Northern and Central Sierra Basins.

FORECASTS of runoff for the April through July period have been increased for all streams. Only three basins in the southern Sierra are still being forecasted below normal -- the Kaweah, Tule, and Kern Rivers and these are within 15 percent of normal. Forecasts for all other streams range from 109 percent of normal for the Merced River to 157 percent for the Trinity River.

SNOWPACK data from April 1 snow surveys show that continued snow accumulation during March boosted water content of the pack to well above normal in all snow zone watersheds. Nineteen snow courses set a record March accumulation of snow. Snow densities are generally 5 to 10 percent lower than normal. This condition tends to delay ripening of the snowpack and may postpone the start of sustained snowmelt runoff.

PRECIPITATION during March was well above normal over most of the State. Precipitation was exceptionally heavy around Shasta Dam where 23.16 inches were recorded, a new March record

and 312 percent of normal for that station. In the Central Valley, only small areas in the Pit River Basin and the southern San Joaquin Valley floor were below normal. In Southern California, portions of Riverside and San Bernardino Counties also received below normal precipitation. All other areas had from 140 to 200 percent of normal precipitation, with several stations in Northern California exceeding 300 percent.

Runoff in March was well above average in all Sacramento Valley streams and this pattern extended south as far as the San Joaquin River Basin. The other San Joaquin Valley streams experienced below normal runoff, with the Tule and Kern Rivers about 75 percent of normal for the month. All coastal basins had above average runoff. In the Lahontan area, only the Truckee and Carson Rivers were below average. Total runoff for the water year, though, remains below average throughout the State, except for the Sacramento River at Red Bluff.

RESERVOIR storage is average throughout the State. In the Central Valley, storage on all streams is either slightly above average or is within 10 percent of a normal April 1 impoundment, except the Stanislaus River which is 76 percent. Most State and Federal Project reservoirs are expected to fill this year.

The upper Koyukuk Basin is one of the few with a below normal snowpack, about 30 percent below. Elsewhere, in the east, the Copper River Basin is much above normal, as is the Snettisham area of southeast Alaska. The Matanuska-Susitna area is 20 percent above average.

## ALASKA BASIN

Little snow fell on interior Alaska watersheds during March. Snowpacks on the Yukon, Tanana, Copper and Susitna watersheds failed to gain a normal amount during the month. The snow on some drainages remained the same as on March 1. In spite of the dry March weather, nearly all watersheds continue to have above average snowpacks due to the abnormally heavy early winter snows. Most Anchorage-Kenai peninsula area low and middle elevation snow courses have their heaviest April 1 snowpack on record. The high elevation accumulations, however, are only slightly above normal.

Streamflow during the snowmelt period is forecast to be about a third above average on the Upper Yukon and Upper Cook Inlet drainages. Almost no snow was received on the Upper Yukon until the last week of March. The Yukon is still expected to yield about 30 percent above normal at Eagle, but the forecast at Ruby is now only 13 percent above average. Low elevation snow on the Tanana and Chena drainages continue to be above average, but at middle and high elevations the snowpack is below average. Streamflow forecasts on this basin have been revised downward to reflect the dry March conditions and are now expected to yield 20 to 30 percent less than average.





# EXPLANATION of STREAMFLOW FORECASTS

All flows are observed flows except as adjusted for: 1/ Storage change in Lake Sherburne. 2/ Storage change in Lima and Clark Canyon reservoirs. 3/ Storage change in Hebgen Lake. 4/ Storage change in Gibson Reservoir and measured diversions. 5/ Storage change in Two Medicine, Four Horns, Lake Francis and Swift reservoirs. 6/ Storage change in Canyon Ferry and Tiber reservoirs. 7/ Changes as indicated in (6/), (8/), plus storage change in Fort Peck. 8/ Storage change in Boysen, Buffalo Bill, Bull Lake and Yellowtail reservoirs. 9/ Storage change in Buffalo Bill Reservoir plus Heart Mountain diversion. 10/ Storage change in Pilot Butte and Bull Lake reservoirs plus Wyoming canal diversion.

11/ Changes indicated in (10/) plus storage change in Boysen Reservoir. 12/ Plus diversions to Cache LaPoudre. 13/ Plus by-pass to power plants. 14/ Minus diversion thru Gumlick Tunnel. 15/ Storage change in Price Reservoir. 16/ Minus diversions from North Platte, Laramie and Colorado rivers plus measured diversions above station. 17/ Storage change in Clear Creek, Twin Lakes and Turquoise reservoirs minus diversions from Colorado River. 18/ Storage change in Rio Grande, Santa Maria and Continental reservoirs. 19/ Storage change in El Vado and Abiquiu reservoirs. 20/ Storage change in Platboro Reservoir.

21/ Storage change in Grandby Reservoir as furnished by U.S.B.R. plus diversions by Adams Tunnel and Grand River Ditch. 22/ Changes as indicated in (21/) plus diversions thru Roberts, Gumlick and Moffat tunnels and storage change in Dillon, Homestake, Williams Fork, Green Mountain and Willow Creek reservoirs. 23/ Changes indicated in (22/) and (26/). 24/ Storage change in Blue Mesa Reservoir. 25/ Changes indicated in (24/), (30/) and (35/) and storage change in Lake Powell. 26/ Diversions to Arkansas River plus storage change in Ruedi Reservoir. 27/ (Inflow record as computed by U. S. Bureau of Reclamation.) 28/ Storage change in Taylor, Blue Mesa and Morrow Point reservoirs. 29/ Storage change in Fontenelle Reservoir. 30/ Storage change in Flaming Gorge Reservoir.

31/ Plus diversion through Duchesne Tunnel. 32/ Storage change in Moon Lake Reservoir. 33/ Storage change in Scofield Reservoir. 34/ Storage change in Joe's Valley Reservoir. 35/ Storage change in Navajo Reservoir. 36/ Plus U. P. & L. Co. tailrace and Logan, Hyde Park and Smithfield canals. 37/ Minus diversions thru Duchesne Tunnel and Weber-Provo Canal. 38/ Storage change in Lake Tahoe and Boca reservoirs (Forecast by Truckee Basin Committee.) 39/ Storage change in Bridgeport Reservoir. 40/ Corrected for major upstream impairments -- represents simulated natural flow conditions.

41/ Storage change in Priest Lake. 42/ Storage change in Coeur d'Alene Lake and diversions by Spokane Valley Farms Co. and Rathrhum Prairie canals. 43/ Storage change in Lake Chelan. 44/ Storage change in Jackson Lake. 45/ Storage change in Jackson Lake and Palisade reservoirs. 46/ Storage change in Jackson Lake, Palisades, Island Park, Henry's Lake, Grassy Lake plus diversions between Heise and Blackfoot. 47/ Storage change in Henry's Lake and Island Park reservoirs. 48/ Storage change in Mackay Reservoir and diversion in Sharp Ditch. 49/ Combined flow Big Wood near Bellevue and Camas Creek near Blaine. 50/ Storage change in Arrowrock, Anderson Ranch and Lucky Peak reservoirs.

51/ Storage change in Wild Horse Reservoir. 52/ Storage change in Cascade and Deadwood reservoirs. 53/ Storage change in Keechelus, Kachess and CleElum reservoirs plus diversion by Kittitas Canal. 54/ Changes indicated in (52/) plus storage change in Bumping and Rimrock Lakes plus diversion by Roza, Union Gap, New Reservation, Old Reservation and Sunrise canals. 55/ Storage change in Bumping and Rimrock lakes and diversions by Tieton, Selah Valley, Wapatox canals and City of Yakima. 56/ Storage change in Merwin, Yale and Swift reservoirs. 57/ Storage change in Mayfield Reservoir.



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